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ABSTRACT

A study examined the ways in which cyclical changes in the business cycle affect unemployment rates by sex in male-dominated occupations and industries. Using data from the monthly reports on employment and earnings issued by the U.S. Bureau of Labor Statistics (1969-1982), the report examined employment rates in selected male-dominated and female-dominated occupations and industries in both peaks and troughs of the economic cycle. These data revealed that the unemployment rate, in male-dominated occupations, is generally higher for women than for men and that this gap varies countercyclically, being greatest during business-cycle troughs. These findings suggest that the traditional approach to viewing women as being protected from the harshest effects of recession by virtue of their concentration in service industries ignores the problem of how business-cycle downturns affect the employment situation of women employed in male-dominated occupations and industries. Data suggest that if women continue to bear more of the burden of an increase in unemployment in male-dominated occupations and industries during periods of economic downturn, then these occupations and industries will remain sex-segregated until legislation emerges to protect women working in such occupations. (MN)

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Sex Differentials in Unemployment Rates in Male-dominated Occupations and Industries During Periods of Economic Downturn

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ABSTRACT

This study focuses on how cyclical changes in the business cycle affect unemployment rates by sex in male-dominated occupations and industries. Male-dominated occupations and industries are defined as those in which women constitute less than 25% of the total employed. It must be noted that the full effects of how a business cycle downturn affects the employment situation of women compared to men may be understated in analyzing unemployment rates due to the fact that large numbers of women are discouraged workers.

Analyzing differences in unemployment rates by sex in male-dominated occupations and industries, data show that the unemployment rate is generally higher for women than men and that this gap varies countercyclically, being greatest during business cycle troughs. These findings suggest that the traditional approach of viewing women as being protected from the harshest effects of a recession because they are concentrated in 'service industries' ignores the problem of how business cycle downturns affect the employment situation of women employed in male-dominated occupations and industries. The policy implications of these findings are important for they indicate that the gains women have made in entering nontraditional jobs are not always long-term.

Increasing research interest has been devoted in recent years to analyzing sex differentials in unemployment rates. It is well known that unemployment rates* for women exceed those for men and that this gap varies procyclically, being greatest at business cycle peaks (Lloyd and Niemi, 1979; Niemi, 1974). Many suggest that the unemployment situation of men deteriorates more than that of women during a recession because men are concentrated in jobs in the 'industry sector'. Business downturns tend to be more severe in this sector, particularly in manufacturing and construction industries, than in female-dominated 'service industries' where employees are believed to be protected from the harshest effects of a recession (Bergmann, 1980; Bridges, 1980; Lloyd and Niemi, 1979:177-85; Wallace, 1982). While there may be merit to this analysis, it does not address how unemployment rates vary over the business cycle by sex in male-dominated occupations and industries.

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*The unemployment rate is derived by dividing the number of unemployed by the total labor force. (Prior to 1983, the base population consisted of the civilian noninstitutionalized population 16 years of age and over (prior to 1967, 14 and 15 year olds were also included). Since January 1983, this figure also includes military employees). The total labor force is defined as the sum of the employed and unemployed, who are actively looking for work. Therefore, persons sixteen years of age and over are classified as (1) employed, (2) unemployed, or (3) not in the labor force. The employed includes all those who work for pay or profit at least one hour or more a week (or work at least 15 hours a week on a farm or in a family business). Thus, part-time workers, even those actively looking for more work, are counted as employed.

The unemployed includes all those who do not work and who are actively looking and available for work, plus individuals on temporary layoff from a job (Lloyd and Niemi, 1979:31). The following activities qualify an individual as looking for work: registration at an employment agency, being on call at a personnel office, placing or answering ads, writing letters of application, and being interviewed by prospective employers (Gilpatrick, 1966:16).

The unemployment rate is generally higher for women than men. Three factors are reviewed as primary in this relationship. First, some suggest that women experience a higher level of frictional unemployment than men. In other words, there is much voluntary movement in and out of the labor force, thus women do not constitute a stable source of labor.

Another problem women face is that they are not perceived by others as primary family workers. Women continue to be viewed as secondary workers, working for 'pin money', whose salaries are not essential to the maintenance of the family. The final factor explored in analyzing differences in unemployment rates by sex centers on the effects of seniority rules. Seniority rules may work to the disadvantage of women, especially women employed in a male-dominated occupation or industry, because they are likely to be among the last hired, thus during periods of economic downturn they may also be the first fired.

Frictional Unemployment: Are Women a Good Source of Labor?

Frictional unemployment is produced by labor turnover. Individuals move from one job to another, by choice or because they were fired, thus some proportion of the labor force will experience frictional unemployment (Lipsey and Steiner, 1978:485,732). In the past, high unemployment rates for women, as compared to men, were understood as a reflection of voluntary choices women made to enter, leave, then re-enter the labor force. Thus, women experience a higher rate of unemployment than men, in part, because they are not perceived by others as committed labor force participants. How accurate, though, are such perceptions?

Female labor force participation is on the rise. In 1948, less than a third of all females worked outside the home. Female labor force participation has steadily increased, and, since May 1978, over half (50.1%) of all females 16 years of age and over were in the labor force (U.S. Department of Labor, 1978). This rate is, however, deceptively low because of the relatively large proportion of the female population which is over the retirement age, as a result of low female mortality rates. Thus, in 1978, 58.5% of women between the ages 20-64 were in the labor force (Lloyd and Niemi, 1979:8,37).

In the past, peak participation periods for women were among women aged 45-64 and those aged 18-19. Older women returned to work after rearing children, to help pay for additional family expenses, like children's college tuition, while younger women worked before entering their child bearing and rearing years. Since 1963, the most dramatic growth in female labor force participation has been among women aged 20-34 (Lloyd and Niemi, 1979:17). Thus, by 1978, the familiar double peak in female labor force participation virtually disappeared.

Females are entering the labor force in increasing numbers, and more importantly, they are not dropping out of the labor force during their child bearing and rearing years. This indicates that labor continuity, as well as participation, is increasing among women (Lloyd and Niemi, 1979:70,73). One would expect that as female labor force participation and commitment to work increased, then wage and unemployment inequalities by sex would diminish (Lloyd and Niemi, 1979). The reverse situation appears to be the case. Even

though women constitute an increasingly reliable source of labor, women are in a worse relative position to men today, in terms of income and unemployment, than they were 20 years ago (Lloyd and Niemi, 1979). Thus, one must look to social pe ceptions in order to understand better these inequities.

Women as Secondary Family Workers: Do Women Need to Work?

Most women work because of economic need. The majority of employed females are: single, widowed, divorced or separated, or working to supplement the low income of their spouse (U.S. Department of Labor, 1980). Still men are generally perceived by employers and others as primary family breadwinners, and the myth persists that women work for 'pin money' (Tepperman, 1976). The social consequences of such perceptions, for example, the problem of the feminization of poverty, are just beginning to be realized.

Due to the high divorce rate in the United States, women may find themselves single after a divorce or as the head of a single-parent family. During the past decade, there was a 69% increase in the number of single-parent families. The overwhelming majority of these families (90%) are maintained by women. Only two-fifths of female-headed single-parent families receive any child support payments from the father and approximately one-half of these families receive some form of public assistance (Wall Street Journal, 1982). There is a new face of poverty today. Until, women perceive themselves and are perceived by others as primary family workers, then the social consequences of changes in family composition will grow ever more apparent over time.

Seniority Rules: Are Women The Last Hired and the First Fired?

Amsden (1980) suggests that seniority rules account for a significant part of unemployment among women. Seniority rules protect the rights of workers who have the longest amount of time on the job. In other words, should a company need to layoff individuals, a more senior person could take the job of a junior person thereby avoiding layoff himself. A company cannot deny women seniority rights, however, this privilege is oftentimes protected by unions. Unions have frequently ignored the need of women to organize, thus in jobs where seniority rights are protected by unions, and women are not union members, a woman who has more time on the job may be bumped by a junior man who is a union member. The constitutionality of this situation was challenged in the case of Danner v. Phillips Petroleum Company (1971) when a woman who had worked 20 years for Phillips Petroleum lost her job in a layoff to a man who had not been with the company as long. The Court ordered Phillips Petroleum Company to rehire the woman (Ross and Barcher, 1983:31-2).

Another piece of legislation which affects the employment situation and possible layoff of women is Executive Order 11246, which was issued by President Lyndon Johnson. E.O. 11246 prohibits discrimination by any employer that has a contract with the federal government. Initially, this legislation forbade discrimination by race, however President Johnson extended protection under this legislation to include women by amending E.O. 11246 with E.O. 11375. Thus, any company or institution which has a contract for more than $10,000 with the federal government may not discriminate in employment, upgrading, demotion, transfer, recruitment or

advertising, layoff or termination, rates of pay of other forms of compensation, or selection for training, including apprenticeship. If the company or institution does not agree to abide by this clause, it will not receive any money from the federal government (Ross and Barcher, 1983:75-6). While these changes are beginning to help protect the rights of women workers they are just a beginning and E.O. 11246 amended by E.O. 11375 applies only to a company or institution that receives federal money.

These three factors help explain why unemployment is generally higher for women than for men. And, in examining fluctuations over the business cycle, the data show that the unemployment gap is generally greatest during business cycle peaks, not troughs. However, an argument is made that for women last employed in a male-dominated occupation or industry the unemployment gap is generally greatest during business cycle troughs, not peaks. In other words, the unemployment situation of women who were last employed in these nontraditional jobs will mirror the unemployment situation of men when unemployment rates are compared over the business cycle. In fact, the unemployment rate for women who were last employed in a male-dominated occupation or industry will be generally higher than for men during business cycle downturns. This research is particularly relevant in light of Reubens and Reubens (1979) suggestion that a trend toward greater sex integration of occupations may currently exist (see also, Roderick and Davis, 1972). Should the unemployment rate be generally higher for women than men who were last employed in a male-dominated occupation or

industry during business cycle downturns, then any gains women have made may be short-term in nature.

The Model

This study investigates sex differentials in unemployment rates between male-dominated and female-dominated occupations and industries during peaks and troughs* of the business cycle since 1969. The periods examined are outlined in Table 1. The data utilized for this study comes from the U.S. Bureau of Labor Statistics, Employment and Earnings, monthly reports.

TABLE 1 ABOUT HERE

Reubens and Reubens (1979) define nontraditional jobs as those in which women constitute "a considerably smaller proportion of the workforce than their current share of the total employed population" (1979:106). In 1980, women constituted 42% of all employed workers 16 years of age and over. Occupations and industries where the proportion of women employed is less than 25% of the total will be defined here as male-dominated. See Table 2 for a breakdown of the percent of women employed in selected occupations and industries.

TABLE 2 ABOUT HERE

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*A cyclical peak is defined as the last quarter before a recession (a decline, for at least two quarters, in real GNP) begins. A recession begins in the first quarter real GNP declines, it ends in the quarter when real GNP hits bottom, which is termed the cyclical trough. Once the economy has passed the trough quarter, it is in recovery (Gordon, 1981:232). A recession is distinguished from a depression in that a recession is a small downturn in GNP and employment, whereas a depression is a large downturn.

Table 1. Timing of Business Cycle Peak and Trough Quarters Since 1969

Peak	Nov. 1969	Nov. 1973	Feb. 1980	July 1981
Trough	Nov. 1970	March 1975	July 1980	Nov. 1982

Source: Drawn from U.S. Bureau of Labor Statistics data, Employment and Earnings, 1969-1982.

Table 2. Women as a Percentage of Total Employment in Selected Occupations and Industries

Occupation*	Percentage Female
White-collar workers	52.8
Professional and technical	43.3
Managers and administrators, except farm	24.6
Sales workers	45.1
Clerical workers	80.3
Blue-collar workers	18.5
Operatives, except transport	40.1
Transport equipment operatives	8.0
Nonfarm laborers	11.6
Service workers	62.0
Farm workers	18.0

Industry*	Percentage Female
Mining	11.8
Construction	7.4
Manufacturing	30.9
Durable goods	25.1
Lumber and wood products	12.1
Furniture and fixtures	34.0
Stone, clay, and glass products	19.4
Primary metal industries	11.7
Fabricated metal products	19.9
Machinery, except electrical equipment	19.8
Electrical equipment	43.0
Transportation equipment	16.6
Automobiles	17.4
Nondurable goods	39.9
Food and kindred products	29.2
Textile mill products	46.6
Apparel and other textile products	79.1
Paper and allied products	22.2
Printing and publishing	38.8
Chemicals and allied products	25.4
Rubber and plastics products	34.2
Transportation and public utilities	24.4
Communication and other public utilities	47.3
Wholesale and retail trade	46.0
Finance, insurance, and real estate	57.6
Service industries	61.2
Professional services	65.6

Source: U.S. Bureau of Labor Statistics, Employment and Earnings, January, 1980.

*Male-dominated occupations and industries are in bold print.

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It must be noted that two significant problems exist in measuring unemployment. First, part-time workers are categorized as employed even if they want and are actively seeking full-time employment. Secondly, unemployment statistics do not include "discouraged workers", individuals who would participate in the labor force if economic conditions, even in normal years, were better (Burtt, 1979:17, 19). Significant numbers of women fall in the discouraged worker category (Amsden, 1980). These are women who desire to work, however, they believe that the likelihood of their finding employment is so negligible that they do not even look. Thus, comparison of unemployment rates may understate the impact of a recession on women relatively more than on men (Amsden, 1980:360; Sherman, 1983:11-15).

Cyclical Variation in Unemployment Rates by Occupation

Table 3 shows that level and differences in unemployment rates by occupation for both men and women. Male-dominated occupations are in bold print. They include: Managers, Blue-collar workers, Transport equipment operatives, Nonfarm laborers, and Farm workers. Occupations where female employment is over 50% of the total, or female-dominated occupations, include: White-collar workers, Clerical workers, and Service workers.

TABLE 3 ABOUT HERE

After reviewing the literature, it was expected that differences in total unemployment rates by sex would be greater during business cycle peaks, not troughs. This holds true for two of the four

Table 3. Level and Differences in Unemployment Rates by Sex and Occupation at Business Cycle Peaks and Troughs

Occupation	Unemployment rate Nov. 1969 Peak Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate Nov. 1970 Trough Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate Nov. 1973 Peak Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate March 1975 Trough Male (1)	Female (2)	Difference (2)-(1)	
White-collar	1.1	3.0	1.9	2.4	4.5	2.1	1.5	3.9	2.4	3.3	5.8	2.5	
Professional	.9	1.3	.4	2.1	2.3	.2	1.3	2.4	1.1	2.2	3.1	.9	
Managers	.7	1.9	1.2	1.5	2.3	.8	1.0	2.8	1.8	2.8	2.9	.1	
Sales	1.2	3.6	2.4	3.5	6.0	2.5	1.8	5.0	3.2	4.7	8.7	4.0	
Clerical	2.4	3.7	1.3	4.1	5.4	1.3	2.8	4.5	1.4	5.2	6.8	1.6	
Blue-collar	3.4	6.2	2.8	6.1	10.0	3.9	4.5	7.3	2.8	13.2	20.0	6.8	
Operatives	3.5	6.4	2.9	6.7	10.4	3.7	4.6	7.2	2.6	15.2	22.2	7.0	
Transport							3.8	4.3	.5	9.8	4.6	-5.2	
Nonfarm	6.8	9.2	2.4	9.9	13.4	3.5	8.1	12.5	4.4	19.1	15.0	-4.1	
Service	3.7	4.0	.3	5.2	6.1	.9	5.9	5.8	-.1	8.7	8.5	- .2	
Farm	1.7	2.3	.6	2.3	4.2	1.9 T_d=-2.75	2.5	5.2	2.7	4.3	5.0	.7	T_d=1.32

Occupation	Feb. 1980 Peak Male (1)	Female (2)	Difference (2)-(1)	July 1980 Trough Male (1)	Female (2)	Difference (2)-(1)	July 1981 Peak Male (1)	Female (2)	Difference (2)-(1)	Nov. 1982 Trough Male (1)	Female (2)	Difference (2)-(1)	
White-collar	2.3	4.6	2.3	2.8	4.8	2.0	2.6	5.5	2.9	4.1	6.4	2.3	
Professional	1.8	2.4	.6	2.2	3.6	1.4	2.2	4.5	2.3	3.2	3.9	.7	
Managers	1.8	3.9	2.1	2.3	3.1	.8	1.9	4.5	2.6	3.2	6.1	2.9	
Sales	3.8	7.0	3.2	3.3	5.0	1.7	2.9	7.0	4.1	5.2	7.3	2.1	
Clerical	2.9	5.3	2.4	5.0	5.6	.6	5.2	5.9	.7	7.4	7.5	.1	
Blue-collar	9.3	11.3	2.0	9.9	14.1	4.2	8.1	11.8	3.7	15.1	17.6	2.5	
Operatives	9.3	12.8	3.5	13.5	15.8	2.3	10.1	12.5	2.4	19.9	20.6	.7	
Transport	8.9	4.9	-4.0	10.0	16.0	6.0	6.8	11.8	5.0	12.2	13.0	.8	
Nonfarm	16.5	11.6	-4.9	14.0	11.0	-3.0	12.2	13.7	1.5	20.2	16.2	-4.0	
Service	13.4	10.0	-3.4	9.4	8.0	-1.4	8.9	7.9	-1.0	11.6	10.5	-1.1	
Farm	4.3	12.4	8.1	3.3	2.6	2.6 T_d=-.69	2.9	7.2	4.3	7.7	13.2	5.5	T_d=1.46

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periods examined. The unemployment gap* is greatest in 1973 and 1981 during business cycle peaks; in 1970 and 1980, it is greatest during business cycle troughs. (It should be noted that the unemployment rate for both men and women between 1969-82 is greatest during the 1975 and 1982 downturns. In other words, the recession during these periods was greater than for the other two downturns examined). It is interesting to note that in the last downturn examined (1982-trough), the total unemployment rate is higher for men than women.

Differences in unemployment rates by sex are generally higher for female blue-collar and farm workers during business cycle downturns, not peaks. This pattern holds for three of the four periods examined. The unemployment gap is higher during business cycle troughs, in two of the four periods examined, for transport equipment operatives. It is only in the most recent 1982-trough, however, that the unemployment gap for female managers is greater than in peak periods.

The unemployment gap for nonfarm laborers, which includes construction workers, is greatest during business cycle peaks, not troughs, for three of the four periods examined. Further, the unemployment rate is higher for men than women in this occupational category for the past three business cycle troughs. It must be noted that legislation exists which prohibits discrimination on the basis of sex by federal contractors and subcontractors. Many suggest that the effects of this legislation were not realized until the early 1970's.

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*The "unemployment gap" is the differential between the unemployment rate for men versus that for women. The term "unemployment gap" is used only in reference to the difference in unemployment rates between men and women. If the gap is positive, this means that the unemployment rate for women is higher than it is for men. And if the gap is negative, this means that the unemployment rate for men is higher than it is for women.

The relative employment advantage women enjoy in this occupation may reflect, in part, the impact of this legislation.

In analyzing matched pair comparisons of the means for male-dominated occupations, significant differences in unemployment rates by sex between peak and trough quarters were found for the first period examined (at the .05 level), and for the third and fourth period (at the .3 level). The sign of the difference is negative, not positive as would have been expected if one accepted traditional theory, for the first two periods examined.

A pattern begins to appear, in analyzing sex differences in unemployment rates in male-dominated occupations, that indicates the unemployment gap in these occupations is greatest at business cycle troughs, not peaks. This holds true for the major male-dominated occupation examined, blue-collar workers. On the other hand, in female-dominated occupations, the unemployment gap is generally greatest during business cycle peaks, not troughs. In fact, for service workers, the unemployment rate for men has been higher than that for women since 1973.

The impact of a recession on the employment status of women, however, does not appear as clearly in analyzing unemployment rates by occupation as by industry. The effects of a recession hit some industries harder than others, particularly durable manufactured goods, and these industries include various occupational categories.* Therefore, in order to analyze in more detail how downturns in the business cycle affect the employment status of women, the unemployment gap in now examined by industry.

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*As Baron and Bielby (1980) note, many researchers assume industries to be relatively homogeneous with regard to technical and dministrative arrangements (e.g., Spilerman, 1977; Tolbert et al., 1980).

Cyclical Variation in Unemployment Rates by Industry

Table 4 shows the level and differences in unemployment rates by industry for both men and women. Male-dominated industries include: Mining, Construction, Manufacturing (Durable goods), Lumber products, Stone products, Primary metal industries, Fabricated metal products, Machinery (except electrical equipment), Transportation equipment, Automobiles, and Paper products. Female-dominated industries include: Apparel products, Finance and real estate, Service, and Professional services.

Analyzing sex differences in unemployment rates by industry, the data show that women, not men tend to carry more of the burden of an increase in unemployment during a recession. In reviewing these unemployment rates, one finds that women, who were last employed in male-dominated industries, were affected more than men by cyclical changes in the economy. In addition, the unemployment gap in these industries is greatest at business cycle troughs, not peaks. The unemployment gap in six industries, durable manufactured goods, stone products, machinery (except electrical equipment), transportation equipment, automobiles, and paper products, shows a consistent pattern of higher female unemployment during business cycle troughs, not peaks. Many suggest that seniority rules within some of these industries may help explain why the unemployment gap is generally higher for women than men during business cycle downturns (Amsden, 1980:377).

TABLE 4 ABOUT HERE

Table 4. Level and Differences in Unemployment Rates by Sex and Industry at Business Cycle Peaks and Troughs

Industry	Unemployment rate Nov. 1969 Peak Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate Nov. 1970 Trough Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate Nov. 1973 Peak Male (1)	Female (1)	Difference (2)-(1)	Unemployment rate March 1975 Trough Male (1)	Female (2)	Difference (2)-(1)
Mining	3.2			.9			3.1			4.9		
Construction	5.2	5.1	- .1	8.8	6.0	2.8	7.7	7.4	- .3	24.6	9.0	-15.6
Manufacture	2.6	5.6	3.0	5.7	9.6	3.9	3.0	6.6	3.6	10.7	18.0	7.3
Durable	2.6	5.9	3.3	6.5	11.5	5.0	2.7	6.4	3.7	11.2	19.5	8.3
Lumber												
Furniture												
Stone												
Primary	1.9	5.1	3.2	5.6	12.9	7.3	3.5	10.0	6.5	10.1	15.6	5.5
Fabricated	2.1	5.5	3.4	6.5	17.0	10.5	4.4	3.7	- .7	12.6	20.5	7.9
Machinery	2.4	3.9	1.5	6.5	10.8	4.3	1.7	4.6	2.9	6.7	15.2	8.5
Electrical	2.3	6.0	3.7	5.5	11.0	5.5	1.5	7.3	5.8	9.0	19.8	10.8
Transport							3.0	6.4	3.4	15.3	22.3	7.0
Auto.							1.3	3.1	1.8	21.8	24.5	2.7
Nondurable	2.6	5.4	2.8	4.2	8.2	4.0	3.5	6.8	3.3	9.8	16.6	6.8
Food	3.5	6.1	2.6	4.6	6.9	2.3	4.6	9.2	4.6	9.3	16.5	7.2
Textile	3.5	5.9	2.4	3.9	7.4	3.5	4.0	3.6	- .4	10.5	20.9	10.4
Apparel	9.0	5.4	-3.6	10.7	9.5	-1.2	4.4	7.0	2.6	20.8	19.9	- .9
Paper												
Printing												
Chemicals												
Rubber												
Transport	2.1	2.7	.6	3.2	4.4	1.2	2.9	3.8	.9	6.6	5.1	- 1.5
Comm.	1.4	2.1	.7	1.4	4.3	2.9	1.6	3.6	2.0	2.5	4.9	2.4
Trade	2.8	4.9	2.1	4.5	7.6	3.1	3.7	7.1	3.4	8.3	10.5	2.2
Finance	1.4	2.3	.9	3.1	3.1	---	2.2	4.4	2.2	4.7	6.1	1.4
Service	2.8	3.8	1.0	4.9	5.7	.8	4.8	4.3	- .5	7.1	7.2	.1
Prof.	1.3	2.2	.9	2.5	3.6	1.1	2.9	3.0	.1	4.1	5.6	1.5

$T_d = -4.04$ $T_d = -.38$

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Table 4. Level and Differences in Unemployment Rates by Sex and Industry, continued.

Industry	Unemployment rate Feb. 1980 Peak Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate July 1980 Trough Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate July 1981 Peak Male (1)	Female (2)	Difference (2)-(1)	Unemployment rate Nov. 1982 Trough Male (1)	Female (2)	Difference (2)-(1)
Mining	7.0	1.3	- 5.7	6.2	7.2	1.0	6.1	4.4	- 1.7	18.2	1.9	-16.3
Construction	17.9	6.5	-11.4	13.1	5.9	- 7.2	12.4	8.8	- 3.6	19.9	13.5	- 6.4
Manufacture	6.3	9.8	3.5	9.0	11.8	2.8	6.2	10.0	3.8	13.3	16.0	2.7
Durable	6.6	9.0	2.4	10.2	12.8	2.6	6.7	9.9	3.2	15.8	17.9	2.1
Lumber	13.1	6.1	- 7.0	13.4	9.6	- 3.8	8.2	18.8	10.6	17.9	17.1	- .8
Furniture	5.8	8.6	2.8	11.1	11.8	.7	5.2	14.0	8.8	13.5	19.3	5.8
Stone	8.4	13.5	5.1	7.5	12.9	5.4	5.1	3.6	- 1.5	16.1	19.0	3.1
Primary	7.8	12.4	4.6	15.1	12.8	- 2.3	8.5	6.8	- 1.7	26.3	29.9	3.6
Fabricated	6.7	14.2	7.5	10.8	15.6	4.8	8.3	11.6	3.3	18.1	18.3	.2
Machinery	3.7	3.2	- .5	6.8	8.5	1.7	5.1	8.2	3.1	15.8	17.3	1.5
Electrical	2.7	6.4	3.7	7.5	11.3	3.8	4.1	8.8	4.7	10.7	16.0	5.3
Transport	10.8	16.3	5.5	14.7	22.1	7.4	9.4	13.0	3.6	16.3	22.2	5.9
Auto.	15.7	24.2	8.5	23.4	37.4	14.0	12.1	24.5	12.4	20.4	34.9	14.5
Nondurable	5.7	10.5	4.8	6.6	10.9	4.3	5.3	10.1	4.8	8.8	14.1	5.3
Food	7.0	16.2	9.2	7.2	8.4	1.2	6.5	8.4	8.0	11.0	17.3	6.3
Textile	4.5	10.5	6.0	8.0	11.3	3.3	6.8	10.4	3.6	10.2	11.2	1.0
Apparel	10.3	10.3	---	10.3	14.8	4.5	12.9	10.6	7.7	14.5	16.4	1.9
Paper	6.2	7.6	1.4	5.6	12.6	7.0	2.3	4.6	2.3	6.9	9.2	2.3
Printing	5.6	8.2	2.6	4.8	7.0	3.8	3.7	6.3	2.6	6.5	6.7	.2
Chemicals	4.1	7.0	2.9	4.7	3.7	- 1.0	3.4	7.1	3.7	6.0	12.1	6.1
Rubber	4.7	9.9	5.2	10.5	17.7	7.2	5.3	15.5	10.2	10.4	17.5	7.1
Transport	5.4	4.1	- 1.3	5.9	5.4	- .5	4.4	3.6	- .8	8.2	6.9	- 1.3
Comm.	2.5	3.4	.9	1.8	3.4	1.6	1.6	2.8	1.2	2.6	3.6	1.0
Trade	6.2	8.9	2.7	7.0	7.9	.9	6.5	9.0	2.5	9.5	11.4	1.9
Finance	3.0	4.0	1.0	3.3	3.1	- .2	3.1	3.8	.7	5.7	5.5	- .2
Service	5.4	5.0	- .4	6.4	6.2	- .2	5.9	6.3	.4	9.0	7.5	- 1.5
Prof.	2.6	3.7	1.1	3.9	4.8	.9	4.1	5.1	1.0	5.0	5.3	.3

T_d = -1.52

T_d = .99

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The evidence is mixed in analyzing the unemployment gap in other male-dominated industries, including mining, primary metal industries, and fabricated metal products. In mining, and lumber industries, differences in unemployment rates by sex can only be analyzed for the last two periods examined. (Pior to 1980, the numbers of women employed in these industries was so small that unemployment rates by sex are not available). The unemployment gap for women in mining is higher, for one of the periods examined during the business cycle trough, not the peak. In the primary metal industries and fabricated metal products, the unemployment gap by sex is higher for two of the four periods examined during business cycle troughs, not peaks. In other male-dominated industries, including lumber, mining, and construction*, the unemployment rate for men is oftentimes higher than it is for women. Once again, the relative advantage women experience, in terms of incidence of unemployment, may reflect the effects of protective legislation in these areas. Nevertheless, an argument can be made that a pattern exist in a number of male-dominated industries that, during business cycle downturns, the increase in unemployment is borne more by women than men.

Computing matched pair comparisons of the means for male-dominated industries, one finds a statistically significant negative difference in unemployment rates by sex between

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*The unemployment gap is higher for female construction workers during the trough, not peak quarter in the first period examined. After 1970, however, women experience a lower instance of unemployment in this industry than do men.

the 1969-Peak and 1970-Trough (at the .01 level, for a one-tailed test), and between the 1981-Peak and 1982-Trough (at the .2 level). And the sign of the difference is negative, not positive for three of the four periods examined.

Industry analysis indicates that the unemployment situation of women is affected by cyclical changes in the economy. To argue that women are less adversely affected by a recession than men because they are concentrated in sectors that are not as sensitive to cyclical variation (apparel, finance, service, and professional service) ignores the fact that the unemployment gap by sex in a majority of male-dominated industries is higher during business cycle troughs, not peaks. Unemployment rates for women do generally exceed those for men. This gap varies countercyclically, being greatest at business cycle troughs, not peaks for women last employed in male-dominated industries.

Discussion

This study focused on how cyclical changes in the business cycle affect unemployment rates by sex in male-dominated occupations and industries. As noted earlier, the full effects of how a business cycle downturn affects the employment situation of women compared to men may be understated in analyzing unemployment rates due to the fact that large numbers of women are discouraged workers. Analyzing differences in unemployment rates by sex in male-dominated occupations and industries, data show that the unemployment gap is generally higher for women than men and that this gap varies countercyclically, being greatest during business cycle troughs. In male-dominated occupations and industries where protective legislation exists, there is some deviation from this trend.

During periods of economic downturn, the unemployment rate for women, who were last employed in male-dominated occupations and industries, is higher than it is for men. The policy implications of these findings are important for they indicate that the gains women have made in entering nontraditional jobs are not always long-term. If, as Reubens and Reubens (1979) write, the sex segragation of occupations and industries has been declining slightly over time, it is reasonable to conclude from my research that one should be cautious in suggesting a trend exists toward greater sex integration of male-dominated occupations and industries. If women bear more of the burden of an increase in unemployment in male-dominated occupations and industries during periods of economic downturn, then these occupations and industries will remain sex segregated over time unless legislation

(or a change in social consciousness) emerges to protect the status of these minority women. Should women, employed in male-dominated occupations and industries, find it difficult to gain seniority in their jobs, then significant progress toward sex integration of occupations and industries is still down the road. In the past women have struggled to gain the opportunity to enter nontraditional occupations. They have tried to ensure that individuals who perform similar work be equally compensated. In the future, women must struggle to protect the gains that have been made, otherwise the progress that many note women have made today may be restricted to the present.

REFERENCES

Amsden, Alice H. (ed.). 1980. The Economics of Women and Work. New York: St. Martin's Press.

Baron, James N. and William T. Bielby. 1980. "Bringing The Firms Back In: Stratification, Segmentation, and the Organization of Work," American Sociological Review 45 (October):737-765.

Bergmann, Barbara, R. 1980. "Occupational Segregation, Wages and Profits When Employers Discriminate by Race or Sex," in A. Amsden ed., The Economics of Women and Work. New York: St. Martin's Press.

Bridges, William P. 1980. "Industry Marginality and Female Employment. A New Appraisal," American Sociological Review 45 (February):58-75.

Burtt, Everett Johnson. 1979. Labor in the American Economy. New York: St. Martin's Press.

Gilpatrick, Eleanor G. 1966. Structural Unemployment and Aggregate Demand. Baltimore, MD: The Johns Hopkins Press.

Gordon, Robert J. 1978. Macroeconomics. Boston: Little, Brown and Company.

Lipsey, Richard C. and Peter O. Steiner. 1978. Economics. Fifth Ed. New York: Harper and Row.

Lloyd, Cynthia B. and Beth T. Niemi. 1979. The Economics of Sex Differentials. New York: Columbia University Press.

Reubens, Beatrice G. and Edwin P. Reubens. 1979. "Women Workers, Nontraditional Occupations and Full Employment," in A. Cahn ed., Women in the U.S. Labor Force. New York: Praeger Publishers.

Roderick, R.D. and J.M. Davis. 1972. Correlates of Atypical Job Assignment. Columbus, Ohio: Center for Human Resources Research.

Ross, Susan Deller and Ann Barcher. 1973. The Rights of Women. New York: Bantam Books.

Sherman, Howard J. 1983. Stagflation. New York: Harper and Row.

Spilerman, Seymour. 1977. "Careers, labor market structure, and socioeconomic achievement," American Journal of Sociology 83:551-92.

Tepperman, Jean. 1976. Not Servants, Not Machines. Boston: Beacon Press.

Tobbert, Charles M., II, Patrick M. Horan, and E.M. Beck, 1980. "The structure of economic segregation: a dual economy approach," American Journal of Sociology 85:1095-116.

U.S. Department of Labor. 1978. Employment and Training Report of the President. Washington, D.C.: U.S. Government Printing Office.
_____. 1980. Bureau of Labor Statistics. Washington, D.C.: U.S. Government Printing Office.

The Wall Street Journal. 1982. "Seduced and Abandoned: America's New Poor." October 5.

Wallace, Phyllis A. 1982. Black Women in the Labor Force. Cambridge, MA: The MIT Press).

Zellner, Harriet. 1972. "Discrimination Against Women, Occupational Segregation and the Relative Wage," American Economic Review 62 (May):157-160.